INDEX

TO

VOLUME L.

TP700
.A5

January 1 to June 30, 1889.

A

Abstract from Annual Report City Gas Works, Richmond, Va..... 660
Accounts, Keeping Gas Companies', by W. A. Hastings..... 529
Accounts, Keeping Gas Companies', by W. H. Humphreys... 559
Accident, An Extraordinary..... 239
Addresses, Presidential, New England Association, 267; Ohio, 412; Southwestern, 471; Western 687
Addresses, Presidential..... 418
Allen, A. L., Not in Accord with Gen. Hickenlooper..... 14
Allotment of Papers, Society of Gas Lighting..... 37
Amendment, Constitutional, Western Gas Association..... 759
American Gas Making, Some Notes and Observations on, by R. Dempster..... 236
Ammonia, Sulphate, Manufacture of..... 625
Ammonia, Sulphate, and Gas Lime..... 82
Analysis of London Gas..... 565
Ancient Reservoir, An..... 310
Anderson, Geo., C. E., Gas Making in England Forty Years ago, 38, 110, 237, 381..... 531
Announcement, Publisher's 1
Annual Meeting, Society of Gas Lighting..... 37
Annual Meeting, Southwestern Gas Association..... 470
Another "Waste Product" Put to Use..... 768
Anthracines, Commercial..... 504
Appliances, Exhibit of Gas, Mansfield, O..... 234
Appropriation for Experiments..... 375
Arc Lights, The Candle Power of..... 38
Arc Lighting Experiences in Wilmington, N. C., John W. Reilly..... 116
Artificial Colors, German..... 116
Artificial Illumination, Some Recent Developments in, by President Henry Morton..... 139
Artificial Lights, Difference of the Influence of..... 144
Artistic Articles used in Connection with Artificial Lighting, by R. J. Monk..... 345
Asphalt Pavements..... 179
Asphaltine..... 15
Augusta, Ga., September Floods at..... 13

B

Badge, Permanent, for Western Gas Association..... 757
Bates, J. A., Experience With an Auxiliary Water Gas Plant at Norfolk, Va..... 386
Belt Speed and Power..... 422
Best Means for Increasing the Demand for Gas, by C. F. Botley..... 77
Bill to Permit Michigan Gas Companies to Supply Electric Light 686
Bisulphide of Carbon, Manufacture and Purification of.... 450
Board of Directors, Report of Western Association..... 690
Boilers, Gas Fired..... 632
*Breaking Coke, by F. C. Sherman..... 342
Bristol-Geyer Meter for Direct and Alternating Currents, by Prof. W. E. Geyer..... 204
Bromine As a Deodorant, Qualities of..... 419
Buildings, Observations on Heavy, by R. W. Gibson..... 74
Building Materials, Methods of Testing the Resistance of. 659
Burning Coal Tar at the Austin (Texas) Gas Works, by A. E. Judge..... 558

C

Canada, The Petroleum Industry of..... 144
Candle Power of Incandescent Electric Lamps at Conshohocken, Pa..... 138
Candle Power of Arc Lights..... 38
Candle Power of Electric Lamps, Measurement of, by Prof. J. T. Stoddard..... 622
Cantine, W. W., On Gas Monopoly..... 451
Carbon Bisulphide, Manufacture and Purification of..... 450
Carbureted Water Gas and its Advantages over Coal Gas, by Chas. R. Fa'en, Jr..... 457
Carbon Monoxide, Fatal Poisoning by..... 531
Cartwright, John, Death of..... 202
Cement and Mortar, Inspection and Use of..... 351
Central Station Lighting, by Prof. Geo. Forbes..... 596, 626
Chemistry of Illuminating Gas, by N. H. Humphrys..... 560
Citizens' Gas Light Company, Gas-holder Explosion, Brooklyn, N. Y..... 70
Chase, H. S., Experiments With a Springer Cupola..... 308
Chimney Shaft, a Tall..... 176
*Clamp for Pulling Street Piling, by C. F. Emery..... 828
Coal Gas Enriched with Oil, by F. Egner..... 622
Coal Imports into Russia..... 419
Coal Gas, Purification of..... 417
Coal Field, The Northern Colorado, by G. C. Hewitt..... 624
Coal Tar Burning at Austin (Texas) Gas Works, by A. E. Judge..... 558
Coal in California..... 240
Coke Furnace..... 654
Coke, Southern, and What it Should Be..... 44
Coke as "Earth" for Lightning Conductors..... 494
*Coke Breaker for Small Gas Works..... 143
*Coke Breaking, F. C. Sherman..... 342
Colliery, The "Tong," Kaiping, China..... 44
Colors, German Artificial..... 116
*Combination Conveyor, The..... 736
Comparison Between Coal and Gas 4
Composition of Boston Gas, by Dr. L. M. Norton..... 303
Commercial Authracenes..... 504
Condition of the Gas Industry..... 239
Confidence in Gas Lighting, Financial..... 239
*Consolidated Gas Company's Mammoth Holder..... 40
*Cooper, A. F., Incidents in the Life of a Superintendent of a Small Gas Works..... 272
Cooking and Heating by Gas, by Jos. R. Thomas, C. E..... 527
Correspondence, Special English..... 8, 111, 239, 418, 565, 696
Covering Steam Pipes, The Value of..... 822

CORRESPONDENCE—

Arc Lighting Experiences, Wilmington, N. C..... 116
Coal Pile Does not End in Ashes, The Gas Works, Sylvester Watts..... 212
Criticism of Mr. Egner's Comments on Rew's Apparatus 180
Experience with an Auxiliary Water Gas Plant at Norfolk (Va.)..... 386
Elyria, O., Oil Gas Test at..... 422
Gas Poisoning, Cases of, at Yonkers, N. Y..... 244
Infringement Proceedings Instituted by the National Gas Light and Fuel Company..... 450
Not in Accord with Gen. Hickenlooper..... 14
Patent, A, and its Value..... 632

CORRESPONDENCE—Continued.

Places His Evidence Before the Jury, Mr. Egner..... 212
Query, A Clever, from a Clever Engineer..... 387
Racine, (Wis.) in Darkness..... 13
Rew, Mr. H. C., Speaks for His Patent..... 13
Self-Explanatory Correspondence..... 387
Story of September Floods in Augusta (Ga)..... 13
"W. M.," Defends Himself..... 13
Criticism of F. Egner's Comments on Rew's Apparatus, by H. C. Rew..... 180
Crude Oil as a Fuel Under Boilers, by J. W. Gwynne..... 469
Crude Petroleum in Steam Boilers, Use of, by L. F. Lyne.. 700
Committees, Composition, Class, etc., of the Various Gas Associations—New England, Visitors, 267; Photometric Standards, 339; Memorial, 269; Nominating, 269; Auditing 268—Ohio, Application for Membership, 411; Executive, 411; Legislation, 460; Next Place of Meeting 460, 462; Memorial, 460, 469; Nominations, 462, 469—Western, Presidents' Address, 690, 732; Visitors, 690; Obituary Resolutions, 690, 694; Nominations of Officers, 690; Place of Next Meeting, 690, 759; Auditing, 690; Application for Membership, 691; Papers and Recommendations, 691; Special, 691; Arrangements, 759; Permanent Badge..... 758

D

Dangers Beneath the Pavements..... 278
Death of, Dr. Wallace, 8; E. Leigh, 8; John Cartwright, 202; Thos. Smith, 338; Lewis Thompson, 418; Philip P. Deily..... 70
Decision on the Rights of Gas Companies, An Important... 2
Dempster, R., Some Notes and Observations on American Gas Making..... 236, 273
Denmark, Production of Gas in..... 660
Denniston, W. H., on Gas and Electricity..... 48
Deodorant, Qualities of Bromine as a..... 419
*Departure in Gas Making, A New Proposed, Westman Process..... 203
Developments in Artificial Illumination, Some Recent, by President Henry Morton..... 139
Different Artificial Lights, The Influence of..... 144
*Dinsmore Process of Gas Making..... 591
Distribution, Danger of Electrical..... 73
Dynamo Electric Current, Starting of the..... 765

E

Education of the Gas Engineer and Superintendent, by John Gimper..... 691
Egner, Frederick, A Review of Patents Invented and Inventions Patented in the Gas Interest the Past Year—2nd Article, 3; 3rd Article,* 71; 4th Article,* 107; 5th Article,* 142; 6th Article,* 171. — *A New Departure in Gas Making, by Westman Process, 203.—Places His Evidence Before the Jury, 212.—Description of a Large Water Gas Apparatus, 378.—Coal Gas Enriched by Oil, 622.—Thoughts and Notes on Water Gas Making..... 623

INDEX

TO

VOLUME L.

TP700
.A5

January 1 to June 30, 1889.

A

Abstract from Annual Report City Gas Works, Richmond, Va..... 660
Accounts, Keeping Gas Companies', by W. A. Hastings..... 529
Accounts, Keeping Gas Companies', by W. H. Humphreys... 559
Accident, An Extraordinary..... 239
Addresses, Presidential, New England Association, 267; Ohio, 412; Southwestern, 471; Western 687
Addresses, Presidential..... 418
Allen, A. L., Not in Accord with Gen. Hickenlooper..... 14
Allotment of Papers, Society of Gas Lighting..... 37
Amendment, Constitutional, Western Gas Association..... 759
American Gas Making, Some Notes and Observations on, by R. Dempster..... 236
Ammonia, Sulphate, Manufacture of..... 625
Ammonia, Sulphate, and Gas Lime..... 82
Analysis of London Gas..... 565
Ancient Reservoir, An..... 310
Anderson, Geo., C. E., Gas Making in England Forty Years ago, 38, 110, 237, 381..... 531
Announcement, Publisher's 1
Annual Meeting, Society of Gas Lighting..... 37
Annual Meeting, Southwestern Gas Association..... 470
Another "Waste Product" Put to Use..... 768
Anthracines, Commercial..... 504
Appliances, Exhibit of Gas, Mansfield, O..... 234
Appropriation for Experiments..... 375
Arc Lights, The Candle Power of..... 38
Arc Lighting Experiences in Wilmington, N. C., John W. Reilly..... 116
Artificial Colors, German..... 116
Artificial Illumination, Some Recent Developments in, by President Henry Morton..... 139
Artificial Lights, Difference of the Influence of..... 144
Artistic Articles used in Connection with Artificial Lighting, by R. J. Monk..... 345
Asphalt Pavements..... 179
Asphaltine..... 15
Augusta, Ga., September Floods at..... 13

B

Badge, Permanent, for Western Gas Association..... 757
Bates, J. A., Experience With an Auxiliary Water Gas Plant at Norfolk, Va..... 386
Belt Speed and Power..... 422
Best Means for Increasing the Demand for Gas, by C. F. Botley..... 77
Bill to Permit Michigan Gas Companies to Supply Electric Light 686
Bisulphide of Carbon, Manufacture and Purification of.... 450
Board of Directors, Report of Western Association..... 690
Boilers, Gas Fired..... 632
*Breaking Coke, by F. C. Sherman..... 342
Bristol-Geyer Meter for Direct and Alternating Currents, by Prof. W. E. Geyer..... 204
Bromine As a Deodorant, Qualities of..... 419
Buildings, Observations on Heavy, by R. W. Gibson..... 74
Building Materials, Methods of Testing the Resistance of. 659
Burning Coal Tar at the Austin (Texas) Gas Works, by A. E. Judge..... 558

C

Canada, The Petroleum Industry of..... 144
Candle Power of Incandescent Electric Lamps at Conshohocken, Pa..... 138
Candle Power of Arc Lights..... 38
Candle Power of Electric Lamps, Measurement of, by Prof. J. T. Stoddard..... 622
Cantine, W. W., On Gas Monopoly..... 451
Carbon Bisulphide, Manufacture and Purification of..... 450
Carbureted Water Gas and its Advantages over Coal Gas, by Chas. R. Fa'en, Jr..... 457
Carbon Monoxide, Fatal Poisoning by..... 531
Cartwright, John, Death of..... 202
Cement and Mortar, Inspection and Use of..... 351
Central Station Lighting, by Prof. Geo. Forbes..... 596, 626
Chemistry of Illuminating Gas, by N. H. Humphrys..... 560
Citizens' Gas Light Company, Gas-holder Explosion, Brooklyn, N. Y..... 70
Chase, H. S., Experiments With a Springer Cupola..... 308
Chimney Shaft, a Tall..... 176
*Clamp for Pulling Street Piling, by C. F. Emery..... 828
Coal Gas Enriched with Oil, by F. Egner..... 622
Coal Imports into Russia..... 419
Coal Gas, Purification of..... 417
Coal Field, The Northern Colorado, by G. C. Hewitt..... 624
Coal Tar Burning at Austin (Texas) Gas Works, by A. E. Judge..... 558
Coal in California..... 240
Coke Furnace..... 654
Coke, Southern, and What it Should Be..... 44
Coke as "Earth" for Lightning Conductors..... 494
*Coke Breaker for Small Gas Works..... 143
*Coke Breaking, F. C. Sherman..... 342
Colliery, The "Tong," Kaiping, China..... 44
Colors, German Artificial..... 116
*Combination Conveyor, The..... 736
Comparison Between Coal and Gas 4
Composition of Boston Gas, by Dr. L. M. Norton..... 303
Commercial Authracenes..... 504
Condition of the Gas Industry..... 239
Confidence in Gas Lighting, Financial..... 239
*Consolidated Gas Company's Mammoth Holder..... 40
*Cooper, A. F., Incidents in the Life of a Superintendent of a Small Gas Works..... 272
Cooking and Heating by Gas, by Jos. R. Thomas, C. E..... 527
Correspondence, Special English..... 8, 111, 239, 418, 565, 696
Covering Steam Pipes, The Value of..... 822

CORRESPONDENCE—

Arc Lighting Experiences, Wilmington, N. C..... 116
Coal Pile Does not End in Ashes, The Gas Works, Sylvester Watts..... 212
Criticism of Mr. Egner's Comments on Rew's Apparatus 180
Experience with an Auxiliary Water Gas Plant at Norfolk (Va.)..... 386
Elyria, O., Oil Gas Test at..... 422
Gas Poisoning, Cases of, at Yonkers, N. Y..... 244
Infringement Proceedings Instituted by the National Gas Light and Fuel Company..... 450
Not in Accord with Gen. Hickenlooper..... 14
Patent, A, and its Value..... 632

CORRESPONDENCE—Continued.

Places His Evidence Before the Jury, Mr. Egner..... 212
Query, A Clever, from a Clever Engineer..... 387
Racine, (Wis.) in Darkness..... 13
Rew, Mr. H. C., Speaks for His Patent..... 13
Self-Explanatory Correspondence..... 387
Story of September Floods in Augusta (Ga)..... 13
"W. M.," Defends Himself..... 13
Criticism of F. Egner's Comments on Rew's Apparatus, by H. C. Rew..... 180
Crude Oil as a Fuel Under Boilers, by J. W. Gwynne..... 469
Crude Petroleum in Steam Boilers, Use of, by L. F. Lyne.. 700
Committees, Composition, Class, etc., of the Various Gas Associations—New England, Visitors, 267; Photometric Standards, 339; Memorial, 269; Nominating, 269; Auditing 268—Ohio, Application for Membership, 411; Executive, 411; Legislation, 460; Next Place of Meeting 460, 462; Memorial, 460, 469; Nominations, 462, 469—Western, Presidents' Address, 690, 732; Visitors, 690; Obituary Resolutions, 690, 694; Nominations of Officers, 690; Place of Next Meeting, 690, 759; Auditing, 690; Application for Membership, 691; Papers and Recommendations, 691; Special, 691; Arrangements, 759; Permanent Badge..... 758

D

Dangers Beneath the Pavements..... 278
Death of, Dr. Wallace, 8; E. Leigh, 8; John Cartwright, 202; Thos. Smith, 338; Lewis Thompson, 418; Philip P. Deily..... 70
Decision on the Rights of Gas Companies, An Important... 2
Dempster, R., Some Notes and Observations on American Gas Making..... 236, 273
Denmark, Production of Gas in..... 660
Denniston, W. H., on Gas and Electricity..... 48
Deodorant, Qualities of Bromine as a..... 419
*Departure in Gas Making, A New Proposed, Westman Process..... 203
Developments in Artificial Illumination, Some Recent, by President Henry Morton..... 139
Different Artificial Lights, The Influence of..... 144
*Dinsmore Process of Gas Making..... 591
Distribution, Danger of Electrical..... 73
Dynamo Electric Current, Starting of the..... 765

E

Education of the Gas Engineer and Superintendent, by John Gimper..... 691
Egner, Frederick, A Review of Patents Invented and Inventions Patented in the Gas Interest the Past Year—2nd Article, 3; 3rd Article,* 71; 4th Article,* 107; 5th Article,* 142; 6th Article,* 171. — *A New Departure in Gas Making, by Westman Process, 203.—Places His Evidence Before the Jury, 212.—Description of a Large Water Gas Apparatus, 378.—Coal Gas Enriched by Oil, 622.—Thoughts and Notes on Water Gas Making..... 623

INDEX TO VOL. L.

Effect of Light on Magnetism 822
Elastic Foundations for Dynamos 664
Eiffel Tower, The 592
Election of Officers of the Different Gas Associations—New England, 342; Ohio, 469; Western, 759; Society of Gas Lighting 37
Election to Membership by the Different Gas Associations—New England, 267; Ohio, 412; Western 694
Electric Lighting in America, by Prof. Geo. Forbes 5
Electric Meter, An 15
Electric Distribution, The Dangers of 73
Electric Light and No Ventilation, and Gas and Ventilation 111
Electric Lighting Contractors, Springfield (Mass.) Plight of 170
Electric Lighting, A Bill to Allow Michigan Gas Companies to Supply 686
Electric Lighting by a Gas Company, Results of the Adoption of, by L. A. Strong 462
Electric Lighting Employees, Licensing 597
Electrical Plumber, The 736
Electric Light in Glasgow, Retailing Through Meters 832
Electricity and Gas, by W. H. Denniston 48
*Emery, C. F., Clamp for Pulling Street Piling 828
Engagement of a Lecturer, New England Association 376
Engines, Gas 565
Engines, Gas, Special Rates in Germany for Gas Consumed in 108
Escape of Gas, Liability of Gas Companies for Injuries from 205
Estimating Temperatures, New Method of 765
Evans, Chas. H., Fuel Gas, Results of Experience in its Manufacture, Distribution and Use 466
Experimental Lecture on Flame and Smoke, by Thos. Fletcher, F. C. S. 42
*Experience with the Ross Charger, by M. S. Greenough 141
Experiences with a Springer Cupola, by H. S. Chase 308
Explosion, Gasholder, Brookly, N. Y. 70
Exposed Iron Work, Preserving 83

EDITORIALS—

Advance Hint from the Mansfield Meeting 373
Austin Convention of the Southwestern Association 446
Annual Meeting, Society of Gas Lighting 37
Annual, Second, of the Southwestern Association 234
Annual Meeting, Boston Gas Company 302
*Badge, Permanent, for the Western Gas Association 757
Birmingham, The Last Gun from 202
Board of Electrical Control Looking for a Scapegoat 446
Boston Company, Changes in the Management of 374
Candle Power of Arc Lights, The 38
Candle Power of Incandescent Electric Lamps 138
Cheaper Gas for Mendota, Ill 302
Cincinnati, On to 445
Cincinnati, Echoes from 685
Circulars, Our Official 526
Cleveland (O.) Not Ready for an Opposition Gas Co 234
Cleveland Council, Still Trying to Convince the 266
Cleveland (O.) Gas Company Not Sold 526
Commission, The Mass., to Render a Decision 106
Death of Mr. John Cartwright 202
Death of Mr. Thos. Smith 338
Echoes of Opposition Charters 493
Editorial Correspondence, Western Gas Association 653
Editor Stone's Vaporings 202
Edisonian Prediction, An 302
Eighty-nine Meeting of the New England Association 266
Electric Light, Winchester, Va 654
Egner, One More for 789
Egner, A Line or Two Concerning His Series of Articles 170
Feast Prepared for the Wise Men of the East 169
Final Gun from Quincy 590
Fort Madison (Iowa) Works, Transfer of 446
Gas Motors, Experiments with 632
Gas Associations and their Mutual Relations 821
Gas Apparatus, Exhibit of, at Mansfield 234
Gas Process (Proctor) Properly Catalogued 138
Gathering and a Pleasant Occasion 106
Has the Thomson-Houston Company a Wicked Partner 374
Hickenlooper, Gen., in favor of the Combination Plan. 302
Hill, John M., Testimonial to 170
Legislation, President Ramsdell on 757
Lima (O.) Must Pay the Gas Company 790
Logansport (Ind.) Progress at 821
Louisville Gas Company to Engage in Electric Lighting 266
Louisville Meeting of American Water Works Association 558
Mansfield, Summing Up at 409
Mansfield, Programme, The 338
Meeting of the Ohio Association 266
Meeting of the New England Association 38
Meeting of the Southwestern Association 469
More About the Western Meeting 558
Obituary, Robert Paulson Spice 721
Our Past and Our Future 1
Paper List of the Western's Conclave 493
Philadelphia, Inspecting the Auxiliary Plant at 202
Public Lighting in New York City 821
Recovering Damages from an Electric Company 409
San Antonio (Texas) Changes at 409
Springfield (Mass.) Plight of Electric Lighting Contractors 170
Standard Meter Unions 526
St. Louis Consolidation, The 590
Surprise, A Rare 526
Tail Wagged the Dog 789
Theme for the Funny Men of the New York Press 493
Toronto Company to Engage in Electric Lighting 70
Vincennes (Ind.) Cheaper Gas for 590
Weston's, Mayor, Veto 374
Wise Course, A 758

F

Faben, Chas. R., Jr., on Carbureted Water Gas and its Advantages over Coal Gas 457
Fatal Poisoning by Carbon Monoxide 531
Financial Confidence in Gas Lighting 239
*Fireproof Floors, by G. M. Lawford 594, 626
Flame and Smoke, by Thos. Fletcher, F. C. S. 42
Flexible Foundations 73
Forbes, Prof. Geo., Electric Lighting in America, 5; Central Station Lighting 596, 626
Fostering the Sale of Gas in Dusseldorf 593
Foundations, Testing 148
Foundations for Dynamos, Elastic 664
Framing, Gas Holder 111
French Opposition to Saccharine 180
Fuel Gas and Incandescent Gas Lighting, by Edward Lindsley 455
Fuel Gas, Results of Experience in its Manufacture, Distribution and Use, by Chas. H. Evans 466
Fuel Gas, by Chas. R. Faben, Jr 722
Fuel Gas: How it Should be Made 797

G

Galveston (Texas) Public Lighting 28
Gas and Electricity, by W. H. Denniston 48
Gas, The Best Means for Increasing the Demand for, by C. F. Botley 77
Gas and Electricity, by S. G. Stiness 346
Gas, The Chemistry of, by N. H. Humphrys 560
Gas Analysis, Elements of, by E. C. Jones 269
Gas Associations and their Mutual Relations, by C. J. R. Humphreys 795
Gas Analysis, London 565
Gas and Coal, A Comparison Between 4
Gas and Ventilation, and Electric Light and No Ventilation 111
Gas Consumption at Philadelphia, Pa., Holiday 15
Gas Companies' Accounts, Keeping, by W. A. Hastings 529
Gas Companies' Accounts, Keeping, by W. H. Humphreys. 559
Gas Companies' Liabilities for Injuries from Escape of Gas. 205
Gas Economiser, A New 565
Gas Engines, Special Rates for Gas Consumed, in Germany. 108
Gas Engines 565
Gas Enterprise in South Africa 8
Gas Fired Boilers 632
*Gas Governor, A New 625
Gas Holder Framing 111
*Gas Holder, for Consolidated Gas Company, Mammoth ... 40
Gas Institute, The 111
Gas Industry, The Condition of the 239
Gas Industry, Progress in the German 768
Gas Lime and Sulphate of Ammonia 92
Gas Making in England Forty Years Ago, by Geo. Anderson, C. E. 38, 110, 273, 381, 531
*Gas Making, A New Departure in, Westman Process, by F. Egner 203
*Gas Making, The Dinsmore Process 591
Gas Monopoly, by W. W. Cantine 451
Gas Motors, Experiments with 632
Gas in Denmark, Production of 660
Gas in Dusseldorf, Fostering the Sale of 593
Gas Poisoning, Yonkers, N. Y. 244
Gas Process, Properly Catalogued, The Proctor 138
Gas Propelled Carriage 315
Gas Testing and Standard of Light 385
Gas Testing and Meter Inspection in Canada 699
Gas Valve, Watson's Reversible 450
Gated Patterns, The Advantage of 347
German Artificial Colors 116
Gerould, L. P., Points on the Management of Small Gas Works 790
Geyer-Bristol Meter for Direct and Alternating Currents, by Prof. W. E. Geyer 204
Gibson, R. W., Observations on Heavy Buildings 74
Gimper, John, The Education of the Engineer and Superintendent 691
Glasgow, Retailing Electric Light through Meters in 832
Graeff, Geo. W., Jr., The Welsbach Burner as a Commercial Article 461
Great Central Gas Company, London, Origin and History . 174
*Greenough, M. S., Experiences with the Ross Charger 141
Greeting the Institute Meeting 794
Guiding Gasholders, The Pease System for 696
Guild of Gas Managers Visits Lawrence, Mass 722

H

Hallett, J. L., on Lima Crude Oil vs Cannel Coal 271
Hardening Plaster of Paris, Process for 686
Hastings, W. A., Keeping Gas Companies' Accounts 529
Heavy Buildings, Observations on, by R. W. Gibson 74
Hewitt, G. C., The Northwestern Colorado Coal Field 624
Hill, John M., Testimonial to 170
History and Origin of the Great Central Gas Co., London ... 174
Holder Tank Problem, by Geo. H. Tayler 460
Holiday Gas Consumption, Philadelphia, Pa 15
Hollow Building, Method of 504
Hookey, Geo. S., Floods in Augusta, Ga 13
Hot Air from Cold, Direct Production of 628
How Fuel Gas Should be Made 797
Humphrys, Norton H., Special English Correspondence. 8, 111, 239, 418, 565, 696
Humphrys, N. H., Pressure Problems 500
Humphreys, C. J. R., Gas Associations and their Mutual Relations 795
Hyde, Jr., G. A., Meter Accounting: Do I Lose any Meters? .. 762
Hydrocarbons, Crude Liquid, as Lighting and Heating Agents, by B. H. Thwaite 562
Hydraulic Mains, Separate Sections of, by J. J. Jervis 495

I

Illuminating Gas, The Chemistry of, by N. H. Humphrys ... 560
Illumination, Some Recent Developments in Artificial, by President Henry Morton 139
Important Decision on the Rights of Gas Companies 2
Imports of Coal into Russia 419
Incandescent Gas Lighting, by John McIlhenny 694
Incandescent Electric Lamps at Conshohocken, Pa., Candle Power of 138
*Incidents in the Life of a Superintendent of a Small Gas Works, by A. F. Cooper 272
*Inclined Retorts, by R. D. Walsh 728
Increase to Secretary's Salary, N. E. Association 376
Increasing the Demand for Gas, The Best Means for, by C. F. Botley 77
Indian Petroleum 207
Industry, The German Way of Promoting 388
Influence of the Different Artificial Lights 144
Injuries from the Escape of Gas, Liabilities of Gas Companies for 205
Inspecting the Auxiliary Plant at Philadelphia, Pa 202
Inspection and Use of Cement and Mortar 351
Institute, The Gas 111
Insurance Rating of Electric Lighting and Plant Stations in New England 533
Insurance and Oil Fuel 180
Inventions Patented in the Gas Interest the Past Year, by F. Egner. 2d art., 3; 3d art., 71; 4th art.,* 107; 5th art.,* 142; 6th art* 171
Iron Work, Preserving. Exposed 83
Iron, Rustless 497
Is the Supply of Natural Gas in the Ohio Valley Failing? by Eugene Printz 413
Items of Interest from Various Localities, 9, 45, 78, 113, 145, 176, 208, 241, 275, 312, 348, 382, 419, 447, 501, 534, 566, 598, 629, 661, 697, 733, 765, 798, 829

J

Jervis, J. J., To What Extent are the Advantages Claimed for Separate Sections of Hydraulic Mains Realized in Practice 495
Jones, E. C., Elements of Gas Analysis 269
Judge, A. E., Method of Burning Coal Tar at the Austin, (Texas) Gas Works 558

K

Kaiping, China, "The Tong" Colliery at 44
Keeping Gas Companies' Accounts, by W. A. Hastings 529
Keeping Gas Companies' Accounts, by W. H. Humphreys .. 559
Kerosen Lighting Viewed Practically 83

L

Lamson, C. D., Elected President, at Worcester 2
*Lawford, G. M., Fireproof Floors 594, 626
Lawrence, (Mass.) The Guild Visits 722
Leakage of Gas at Carshalton 8
Learned, Superintendent, Heard From 212
Liabilities of Gas Companies for Injuries from Escape of Gas 205
Licensing Electric Light Employees 597
Lids, Self-Sealing 13
Light of Shooting Stars 472
Lighting, Hoosac Tunnel by Electricity 15
Lighting, Contractors, Springfield, (Mass.) Plight of 170
Lighting, Galveston, Texas, Public 82

INDEX TO VOL. L.

Lighting, Viewed Practically, Kerosene 83
Lighting, (arc) Experiences in Wilmington, N. C 116
Lighting, Central Station, by Prof. Geo. Forbes 596, 626
Lights, Influence of Different Artificial 144
Lima Crude Oil versus Cannel Coal, by J. L. Hallett 271
Lime and Sulphate of Ammonia, Gas 82
Lindsley, Edward, Fuel Gas and Incandescent Gas Lighting 455
Liquid Fuel for Raising Steam 8
Longevity of American Patents, an Important Patent Decision On 106
Louisville Gas Company to Engage in Electric Lighting 266
Lyne, Lewis F., Use of Crude Petroleum in Steam Boilers.. 700

M

Magnetism, Effect of Light On 822
*Mammoth Gasholder for Consolidated Gas Company 40
Mansfield Meeting, Exhibit of Gas Appliances 234
Market for Gas Securities, 15, 48, 83, 117, 149. 181, 213, 245, 279. 316, 352, 388, 423, 472, 505, 537, 569, 600, 633, 665, 701, 737, 769, 801, 833
Market for 1888, Petroleum 172
Massachusetts Commission to Render a Decision on Water Gas 106
Measurement of the Candle Power of Electric Lights, by Prof. J. T. Stoddard 422
Meter Accounting, Do I Lose any Meters? By G. A. Hyde, Jr. 762
Meter Connections, Standard Threads For 8
Meter for Direct and Alternating Currents, The Geyer-Bristol, by Prof. W. E. Geyer 204
Meter Inspection and Gas Testing in Canada 699
Method of Hollow Building 504
Methods of Taxation of Different Gas Companies and a Comparison of Same, by H. Wilkiemeyer 452
*Millis Methods of Testing Arc Lamps for Candle Power 498
Mitchell, K. M., Retort Furnaces for Burning Coal 731
McIlhenny, John, Incandescent Gas Lighting 694
Modern Sulphate Apparatus 8
Monks, R. J., Artistic Articles Used in Connection with Artificial Lighting 345
Morton, President Henry, Some Recent Developments in Artificial Illumination 139
Motors, Experiments with Gas 632
Municipal Electric Lighting, by Fred. H. Whipple 311

N

Naphtha, Proposed Corner in Wood 596
New England Insurance Rating of Electric Lighting and Plant Stations 533
New President for Worcester Gas Company 2
New Method of Inserting Storage Batteries in Cars 472
New Method of Estimating Temperatures 765
*Nichols, Prof. E. L., Personal Error in Photometry 823
Nineteenth Annual Meeting New England Ass'n. Gas Engineers, Official Report 267
Norton, Dr. L. M., Composition of Boston Gas 303
Not Altogether "Soulless" 15
Notes and Comments, by Observer 4, 74, 173, 235, 309, 380
Notes and Observations on American Gas Making, by B. Dempster 236, 237

O

Obituary—Robert Paulson Spice 721
Observer, Notes and Comments by 4, 74, 173, 235, 309, 380
Odd Lots 15
Officers, Election of, Society of Gas Lighting 37
OFFICIAL NOTICES:
New England Association, 37, 69, 105, 137, 169, 201; Ohio, 69, 105, 137, 233, 265, 301, 337; Southwestern, 233, 265, 301, 338; Western, 445, 493, 525, 557, 589, 621
Official Notice, in the Matter of Standard Meter Unions 526
OFFICIAL REPORTS:
Nineteenth Annual Meeting, New England Assn., 267, 303, 339, 375; Fifth Annual, Ohio Assn., 411, 451; Twelfth Annual, Western Assn., 687, 722, 758, 790; Southwestern 470
Oil Fue and Insurance 180
On the Use of Crude Oil for Enriching Coal Gas and for Firing Bench Furnaces, by J. H. Woodmansee 763
Opening the Question Box—New England Assn., 375; Western Gas Assn 791
Opposition Company at Cleveland, O., Not Ready for an 234
Opposition to Saccharine, French 180
Origin and History of the Great Central Gas Company of London 174

P

Papers, Society of Gas Lighting, Allotment of 37
Patents Invented and Inventions Patented in the Gas Interest the Past Year, by F. Egner, 2d art., 3; 3d art.,* 71; 4th art.,* 107; 5th art.,* 142; 6th art.,* 171
Patents, Decision on Longevity of American 106
Patent Issues, Recent 278, 387, 536, 664, 768, 800
Pavements, Asphalt 179
Pease System of Guiding Gas Holders 696
*Permanent Badge, Western Gas Association 757
*Personal Error in Photometry, by Prof. E. L. Nichols 823
Petroleum Market for 1888 172
Petroleum Industry of Canada 144
Petroleum, Indian 207
Petroleum Borings in Galicia 472
Petroleum in Steam Boilers, The Use of, by L. F. Lyne 700
Philadelphia, Pa., Inspecting the Auxiliary Plant at 202
*Photometry, Personal Error in, by Prof. E. L. Nichols 823
*Photometric Standards. Report of Committee on, by C. F. Prichard 339
Plaster of Paris, Process for Hardening 686
Plight of Electric Lighting Contractors, Springfield, Mass... 170
Plumber, The Electrical 736
Points on the Management of a Small Gas Works, as Deduced from Twenty-five Years' Experience, by L. P. Gerould 790
Poisoning at Yonkers, N. Y., Cases of Gas 244
Poisoning by Carbon Monoxide 531
President's Addresses—New England, 267; Ohio, 412; Western, 687; Southwestern 471
Preserving Exposed Iron Work 83
Pressure Problems, N. H. Humphrys 500
Prichard, W. W., Results at Ironton (O.) in Working Improved Furnaces 495
Printz, Eugene, Is the Supply of Natural Gas in the Ohio Valley Failing? 413
Proctor Gas Process Properly Catalogued 138
Progress in the German Gas Industry 768
Public Lighting, Galveston, Texas 82
Publisher's Announcement 1
*Pulling Street Piling, Clamp for, by C. F. Emery 828
Pyrology 828

Q

Qualities of Bromine as a Deodorant 419
Question Box, Opening of the, New England Association, 375; Western 791

R

Racine (Wis.) in Darkness 116
Raising Steam, Liquid Fuel for 8
Rates, Special, for Gas Consumed in Engines in Germany .. 108
Receiving the Visitors, Western Meeting 691
Regrets, Telegrams and Letters of, Ohio Meeting 411
Reilly, Jno. W., Arc Lighting Experiences, Wilmington, N. C 116
Report of Committee on President's Address, Western Association 732
Report of Committee on Permanent Badge, W. G. A 758
Report of Committee on Place of Next Meeting, W. G. A... 759
Report of Committee on Memorial Resolutions, W. G. A.. 694
Reports of Special Committees, W. G. A 691
Report, Treasurer's, New England, 268; Ohio, 412; Western. 691
*Report of Committee on Photometric Standards, G. F. Prichard 339
Report, Stenographic 376
Report of Memorial Committee on late Samuel Fowler 376
Report of Executive Committee, Ohio Association 411
Report, Secretary's, Ohio Association, 411; Western 691
Report of Board of Directors, W. G. A 690
Results of the Adoption of Electric Lighting by a Gas Company, by L. A. Strong 462
Results at Ironton (O), in the Working of an Improved Furnace, by W. W. Prichard 495
Resistance of Certain Building Materials, Method of Testing the 659
Reservoir, An Ancient 310
Retailing Electric Light through Meters in Glasgow 832
Retort House Work, by Geo. T. Thompson 760
Retort Furnaces for Burning Coal, by K. M. Mitchell 731
Retorts, Scurfing, by Henry Sainsbury 527
Rew, Mr. Henry C., Speaks for his Patent 13
Rew's, Mr. H. C., Criticism of Mr. F. Egner's Comments on his (Rew's) Apparatus 180
Richmond, Va., Abstract from Annual Report City Gas Works 660
Roll Call, New England Association, 267; Ohio, 411; Western 687
*Ross Charger, Experiences with, by M. S. Greenough 141
Rustless Iron 497

S

Saccharine, French Opposition to 180
*Sainsbury, Henry, Scurfing Retorts 527
Sections of Hydraulic Mains, Separate, by J. J. Jervis 495
Secretary's Salary Increased, Ohio Assn 469
Secretary's Salary Increased, New England Assn 376
Self-Sealing Lids 13
Shaft, a Tall Chimney 176
*Sherman, F. C., Breaking Coke 342
Simmance, J. F., Ventilation by Gas 824
Society of Gas Lighting, Annual Meeting of 37
Some Facts Concerning the Exeter (N. H.) Gas Co 15
Southern Coke and What It Should Be 44
South Africa, Gas Enterprise in 8
Special English Correspondence 8, 111, 239, 418, 565, 696
Springfield (Mass.), Plight of Electric Lighting Contractors. 170
Spirally Welded Steel Tubes 211
Standard Meter Unions, Official Notice 526
Standard Threads for Meter Connections 8
Standards of Light and Gas Testing 385
*Starting of the Dynamo-Electric Current 765
Steel Pipe, The Demand for 597
Stiness, S. G., Gas and Electricity 346
Storage Batteries in Cars, New Method of Inserting 472
Straightening the Walls of Buildings 664
Street Work in Winter 388
Strong, L. A., Results of Adoption of Electric Lighting by a Gas Company 462
Sulphate of Ammonia and Gas Lime 82
Sulphate Apparatus, A Modern 8
Sulphate of Ammonia, Improved Method of Manufacturing 625
Superintendent Learned Heard From 212
Sustaining the Board of Directors 760
Sutherland, A. M., Oil Gas Test at Elyria (O.) 422

T

Tall Chimney Shaft, A 176
*Tank Building, A New Departure in, by V. Wyatt 655
Tar Firing, by Geo. Wadeson 796
Tar Burning at Austin (Texas) Gas Works, by A. E. Judge.. 558
Taxation of Different Gas Companies, Method of, by H. Wilkiemeyer 452
Tayler, Geo. H., A Holder Tank Problem 460
Telegram from Prof. Mendenhall 760
Temperatures, New Method of Estimating 765
Tensile Strength of Ropes 315
Testimonial to Mr. John M. Hill 170
Testing Foundations 148
*Testing Arc Lamps for Candle Power, Millis' Method of... 498
Testing the Resistance of Certain Building Materials, Method of 659
Tew, W. T., Some of the Causes of Unaccounted for Gas.... 764
Thanking the Directors, W. G. A 794
Thomas, Jos. R., C. E., Cooking and Heating by Gas 527
Thompson, Geo. T., Retort House Work 760
Threads, Standard, for Meter Connections 8
Thwaite, B. H., on Water Gas 532, 562
Thwaite, B. H., Crude Liquid Hydrocarbons as Heating and Lighting Agents 562
Treasurer's Report—New England, 268; Ohio, 412: Western, 691
Tubes, Spirally-Welded Steel 211

U

Use of Crude Petroleum in Steam Boilers, by Lewis F. Lyne, 700
Unaccounted for Gas, Some of the Causes of, by W. T. Tew, 764

V

Valon's Experiments at Ramsgate 696
Value of Covering Steam Pipes 822
Ventilation by Gas, by J. F. Simmance 824
Ventilation and Gas, and Electric Light and No Ventilation. 111
Visitors, Welcoming the, W. G. A 690
Votes of Thanks, New Eng., 377; Ohio, 470; Western 793

W

Wadeson, George, Tar Firing 796
Wallace, Dr., Death of 8
Walls of Buildings, Straightening the 664
*Walsh, R. D., Inclined Retorts 72
"Waste Product" Put to Use, Another 768
Water Gas 696
Water Gas, The Mass. Commission to Render Decision on.. 106
*Water Gas Apparatus, Description of a Large, by F. Egner. 378
Water Gas, by B. H. Thwaite 532, 562
Water Gas Making, Thoughts and Notes on, by F. Egner... 623
Watson's Reversible Gas Valve 450
Watts, Sylvester, The Gas Works Coal Pile Does Not End n Ashes 212
Weakness in Short Columns 351
Wedding, Golden, and a Pleasant Gathering 106
Welsbach Burner as a Commercial Article, by George W. Graeff, Jr 461
Westman Process, New Departure in Gas Making, by F. Egner 203
Whipple, Fred. H., Municipal Electric Lighting 311
Wilkiemeyer, H., Method of Taxation of Different Gas Companies 452
"W. M." Defends Himself 13
Wood Naphtha, Proposed Corner in 596
Woodmansee, J. H., on the Use of Crude Oil for Enriching Coal Gas and for Firing Bench Furnaces 763
*Wyatt, V. A New Departure in Tank Building 655